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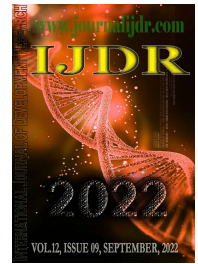
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RESEARCH ARTICLE

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ADHESION OF PPE IN THE HOSPITAL ENVIRONMENT AND ITS RELATIONSHIP WITH THE REDUCTION OF OCCUPATIONAL RISKS

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ABSTRACT

Background: The proper use of personal protective equipment aims to ensure safety and minimize the risks to which workers are exposed during their work activities. Thus, the present article sought to identify how adherence to PPE works by professionals in the hospital environment, and how this adherence can impact on the reduction of occupational risks. This is a literature review, divided into 6 stages that allowed a better understanding of the proposed theme. After analyzing the studies, it was possible to identify that the professionals most affected by work accidents are female and from the professional category of nursing technician, who for the most part were not using PPE properly. It is concluded that adherence to PPE is a fundamental requirement in the work of the nursing team in order to reduce occupational risks as well as hospital infections. It is necessary that professionals know the importance of this precaution and that institutions provide quality equipment, in sufficient quantity and in an adequate manner for the procedures that will be performed.

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INTRODUCTION

According to the Regulatory Standard (NR), Personal Protective Equipment (PPE) are devices for individual use that are used by several professionals of different categories, intended to prevent risks that may threaten the safety and health of workers during execution of work activities¹. These devices perform protective functions to reduce biological, physical and chemical risks². In the hospital environment, examples of PPE are lab coats, gloves, masks, caps, uniforms, acrylic glasses, face shields, aprons and waterproof closed shoes³. The hospital environment can be considered deleterious, as it gathers several patients with different infectious and contagious comorbidities, and enable various procedures that pose risks to professionals working in that environment⁴. Therefore, in hospital practice, professionals must be aware that PPE's are important allies and that they make the care provided safer and more reliable⁵. It is necessary to have a critical sense of PPE, using it responsibly and rationally NR 32 establishes the basic guidelines for the implementation of measures to protect the safety of workers in health services; and says that it is the responsibility of health institutions to provide PPE at no cost to professionals, and that they should not use it outside of work activities⁶. The central concern would be the construction of safe environments for the execution of procedures, the problem goes beyond the availability and use of equipment, because many professionals do not know how to properly handle PPE's, corroborating that the misuse of these tools implies ineffective protection, which increases the risk of infections, which are determinants of harm to patients. , workers and the health institution itself¹⁰. In addition, the disposal of PPE's must be done properly, in specific places and protected by packaging that isolates the material from the environment, as well as promoting monitoring and its washing and sterilization in an autoclave^{1,2}. This study is justified by the importance of this theme in the context of occupational nursing, on the exposure of hospital professionals to occupational risks and adherence to the use of personal protective equipment by them, thus constituting a prioritization of measures to correct working conditions¹⁰. Given the above, the study aimed to identify how the adherence of personal protective equipment by professionals in hospital environments works and how this adherence can influence the reduction of occupational risks.

METHODS

This is a literature review, which allows us to better understand the proposed theme. It is an efficient means that identifies studies on a given topic, provides scientific evidence and makes its synopsis available, thus facilitating its execution. In this way, this type of methodology emerges as a tool that provides the synthesis of learning and the engagement of the applicability of results and important studies in practice. The elaboration of the integrative review is systematized in compliance with the following criteria: initially, the specific objective is defined; then, formulation of questions to be answered or hypothesis to be tested; finally, a survey to identify and collect as much relevant research as fits within the previously defined inclusion and exclusion criteria. The reviewer then carefully evaluates the method criteria used in the development of selected studies to define whether they are methodologically validated. This process results in coarctation of studies included in the review. The collected data are interpreted, systematized and conclusions are formulated, based on the various studies included in the integrative review. For data collection and analysis, the review was divided and followed in stages: 1st stage: prepare the research guiding question for the integrative review; 2nd stage: identify scientific studies to compose the literature review; 3rd stage: perform data collection; 4th stage: analyze and interpret the data from the chosen studies; 5th stage: discuss the results found; and in the 6th to build and synthesize the acquired knowledge. The bibliographic data collected aimed to define how the adherence of PPE is configured in the hospital environment and what is its contribution to the reduction of occupational risks. For that, a preliminary search was carried out in

national scientific journals aiming at the investigation and analysis of studies that deal with the topic in question. The descriptors used to find the articles were: "EPI AND occupational accidents AND nursing", defined from the search for the Health Sciences Descriptors (DeCS, for terms in Portuguese). Then the inclusion and exclusion criteria were discarded. As inclusion criteria, the following filters were applied: be in article format, listed in the Virtual Health Library (VHL), available in full text; written in Portuguese; studies that target workers in the hospital environment; have been published between the years: 2017 to 2022. After the filters, 53 articles resulted, which the abstract was read so that, when they did not present the proposed topic, they were excluded. Thus, we identified five thousand articles produced in different audiences to the research and 155 articles addressed topics different from the proposed one. Remaining for discussion and analysis 05 articles. From the studies used, the following information was taken: objective, type of study, sample population, methodological approach and conclusion. As this is a literature review study,

RESULTS AND DISCUSSION

For analysis, the studies were organized in a table with the following items: article title, journal, year of publication, methodology used, authors and objective of the work. These data will be presented later in table 1. As for the year of publication, there was a predominance in the period 2020, justified by the covid-19 pandemic, from which all health professionals are obliged to use PPE's. Analyzing the selected studies, it was observed that the publications on the aforementioned topic have increased in recent years, since it is an extremely relevant subject since the high rate of work accidents that occur within the hospital environment is linked to the lack or misuse of PPE's. According to the analysis of the research, it is clear that health professionals know the risks to which they are exposed within the hospital environment, the personal protective equipment that must be used as well as the correct way to use it, but often they do not use them out of habit, haste, overconfidence or even because they consider their use unnecessary^{9,10}. Some studies also point out that the fact that some PPE's are uncomfortable increases the possibility of professionals failing to incorporate it during their work activities^{1,2}, on the other hand, a study disagrees with these justifications, saying that there is no reason for professionals to refuse to use this equipment, since nowadays the EPIS's are developed to guarantee safety with comfort to the professional. It is worth mentioning that the use of equipment is of paramount importance for the protection of the professional and the patient, since both are exposed to contaminated materials and physical contact, which can increase the risk of contracting infections¹. This risk becomes even greater for the professional himself, given the frequent need to perform invasive procedures, in addition to assisting several patients in a short period of time.

Regarding the most frequent work accidents related to the lack of use of PPE's or inappropriate use, it was noticed that the majority occurred during punctures, handling of needles and disposal of sharps. Several studies demonstrate a predominance of occupational accidents involving needles and blades, with high rates of occurrences, in the minority of times professionals are using protective equipment^{8,9}. Studies indicate that most occupational accidents occur with female professionals. Some authors relate this to the fact that hospital environments have their professional staff composed mostly of women and that care practices have always been associated with them¹. Regarding the professional category, studies have shown that nursing technicians are the most affected^{1,4,6,7,8} some authors relate this to the fact that these professionals are in constant contact with materials and patients, and who, on several occasions, in order to speed up the service, end up not using PPE either when preparing medication or during the execution of the invasive procedure. As a strategy to increase adherence to personal protective equipment, studies suggest that hospital managers, together with team coordinators, develop awareness measures to prevent accidents, making it clear that for this to occur, the change must be individual

Table 1. Distribution of publications according to article title authors and year, objectives and main results

Study titles	Authors/years	Goals	Main results
Knowledge and use of personal protective equipment by nursing professionals during the COVID-19 pandemic	Moral; AA et al (2020)	To explore the knowledge and use of personal protective nursing equipment by professionals of Primary Health Care during the Covid-19 pandemic	From the corpus of 6,873 words and 832 lexical units, three categories were created: (1) motivations and barriers for use (20.9%); (2) handling of personal protective equipment (classes 5 and 4) with 25% and 21.6%, respectively, and (3) measures to protect users and health professionals (classes 3 and 5) with 17.6% and 14.9%.
The importance of personal protective equipment for the nursing professional in the work environment	OLIVEIRA; BARBOSA; (2021)	To analyze the knowledge of professionals about personal protective equipment and the importance of using them for their protection.	It was observed that nursing professionals are exposed to high risks, due to the immense number of procedures, equipment and overload in their work environment. The risks that these professionals are exposed to are of different etiologies, so there is a need to seek strategies to minimize these.
Risk perception and use of personal protective equipment (PPE) in the exposure of nursing professionals to ionizing radiation	BELT; FREIRES; LUCENA (2022)	Explore nurses' perception of risk and the use of PPE in exposure to ionizing radiation.	Among these risks, exposure to ionizing radiation has perhaps had less visibility, even if it is a matter of society, and not exclusively of the world of work. It is these risks that constitute the focus of our analysis: the objective is, then, to explore the nurses' perception of the risk and use of PPE in exposure to ionizing radiation.
The Role of the Nurse in Reducing Biological Risks in the Nursing Work Environment	FERREIRA, LMB M et al., 2022	Describe what are the biological risks in the nursing work environment.	Nowadays, it is still notorious in nursing professionals the lack of knowledge of the importance of the use of PPE, it is up to them to be responsible for the correct use of hand washing, correctly handling waste, notifying in case of an accident at work, medical treatment, up-to-date vaccination and control of serology, as well as the neglect of this use by managers of institutions
A study on the male nurse importance in the orientation of the use of the equipments of individual protection - epis	COSTA, CS et al., 2022.	To describe the importance of the professional's of the nursing attributions inserted in a team, as well as your orientations concerning the correct use of the Equipments of Individual Protection for the professionals of the health.	They were used for the construction of this article 30 materials from different sources, and of this total one 08 were excluded, pointing out, however, that all the materials here used are inherent to the theme on the use of EPIs and the as the male nurse is important in this process.

and collective. Authors suggest that continuing education is one of the best qualification strategies for professionals to get to know, ask questions and adopt new practices during their work process^{8,9,10}.

CONCLUSION

After analyzing the studies, it was possible to define which professionals are most affected by accidents at work, as well as identify improvement strategies to increase adherence to PPE. In this sense, it is extremely important that all health professionals, especially those who are inserted within the hospital environment, adopt biosecurity measures, and for that, the knowledge and awareness of their importance for the safety and health of the worker and the patient. they become necessary. It is also necessary to create spaces where professionals feel comfortable to discuss issues relevant to working conditions, make suggestions, ask questions, so that they can contribute to the reduction of occupational risks. From this perspective of understanding, It is concluded that adherence to PPE is a fundamental requirement in the work of the nursing team in order to reduce occupational risks as well as hospital infections. It is necessary that professionals know the importance of this precaution and that institutions provide quality equipment, in sufficient quantity and in an adequate manner for the procedures that will be performed. Therefore, it presents itself as a topic of great relevance to be discussed, deepened and practiced in professional training.

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